FINANCE 924 – INTERTEMPORAL MACROECONOMICS AND FINANCE

Fall 2021

Professor Joao F. Gomes
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Hours: Tuesday 1:30-2:30

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Hours: TBD

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Course Description

This is a first-year doctoral course on Macroeconomic Theory. Students will study the key intertemporal decisions of households and firms, their basic implications for long run economic growth, business cycle fluctuations and asset prices, and the role of monetary policy. We also develop basic numerical techniques to solve dynamic optimization problems and apply them to study a broad range of economic models.

Prerequisites: The prerequisites are a graduate level course in microeconomics (could be taken concurrently) and a strong understanding of algebra and calculus. A basic knowledge of a mathematical programming language is recommended.

Grading

Students are expected to come to class and participate regularly. Grades will be based on six homework assignments (60%) and one final exam (40%). Actively working on the assignments is essential for your understanding of the course material. You *may work in groups*, but you must turn in your own answers. The best set of answers will be anonymized and posted online.

Materials

The main reference for this class are **my slides** which are extremely detailed. Slides, assignments and, occasionally, additional readings will be posted on Canvas. The lecture notes are designed to be self-contained and, together with the problem sets, should be your primary source of study.

There is no required textbook. Most macro graduate sequences include the equivalent to two semesters of course work and virtually all textbooks cover many more topics than what can be discussed in a single course. Nevertheless, the course material is closest to two main books:
- **LS:** Lars Ljunqvist and Thomas J. Sargent. *Recursive Macroeconomic Theory*, MIT.
- **W:** Michael Wickens, *Macroeconomic Theory: A Dynamic General Equilibrium Approach*, Princeton

Wickens (W) offers a straightforward introduction to most topics and should be read first. Ljunqvist and Sargent (LS) has a much more advanced treatment of some topics and includes

many upper level ones too.

Additional and complementary discussions of specific topics are provided in
- **DR:** David Romer, *Advanced Macroeconomics*, McGraw Hill.
- **G:** Jordi Gali, *Monetary Policy Inflation in the Business Cycle*, Princeton.

Finally, a detailed treatment of many of the necessary mathematical methods and numerical tools can be found in
- **SLP:** Nancy Stokey and Robert Lucas, with Edward Prescott, *Recursive Methods in Economic Dynamics*, Harvard.
- **J:** Judd, Kenneth, *Numerical Methods in Economics,* MIT Press.

List of Topics and Readings:

0. Introduction (pre-term readings)
   - W: Ch. 1
   - LS, Ch. 1 (pg. 1-20)
1. Households: Consumption and Saving Decisions
   - W: Sec. 4.1-4.6
   - LS, Ch. 17
2. Competitive Equilibrium with Complete Markets
   - W, Sec. 10.1-10.4
   - LS, Ch. 8
3. Asset Pricing in Endowment Economies
   - W, Sec. 10.5-10.9
   - LS, Ch. 13
   - Supplement: Applications: LS, Ch. 14
4. Tools I: Recursive Methods and Dynamic Programing
   - SLP, Ch. 3-4
5. Competitive Equilibrium with Incomplete Markets
   - LS, Ch. 18
6. Firms: Production and Investment
   - W, Sec 2.2 and 2.7
7. Tools II: Numerical Methods
   - W: Ch 15
   - LS, Sec 2.1-2.4, Ch. 3-5
8. General Equilibrium and Long Run Growth
   - W: Sec 2.3-2.4, 4.7-4.10, Ch 13
   - LS, Ch. 12 and Sec. 15.1-15.5
9. Business Cycles
   - W, Sec. 2.5-2.6, 14
   - King, Plosser and Rebelo, "Production, Growth and Business Cycles I: The Basic Neoclassic Model", *Journal of Monetary Economics,* 1988
   - King and Rebelo, "Resuscitating Real Business Cycles", *Handbook of Macroeconomics,* 1999
10. Monetary Economies
    - G, Ch. 2-4
    - W, Ch 8-9, 13
    - Supplement: LS, Ch. 26
11. Models with Financing Frictions

- Bernanke, Gertler and Gilchrist, "The Financial Accelerator in a Quantitative Business Cycle Framework", *Handbook of Macroeconomics,* 1999

12. Overlapping Generations Models
- LS, Chapter 9